



UFSCAR STRATEGIC PLAN FOR INTERNATIONALIZATION:

DEVELOPING GLOBAL KNOWLEDGE AND
CULTIVATING INTERCULTURAL COMPETENCES



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proPS

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MISSION

TO SUPPORT, EXPAND, COORDINATE AND CONSOLIDATE STRATEGIES THAT COULD IMPROVE THE INTERNATIONALIZATION OF GRADUATE PROGRAMS, INVESTING IN THE EDUCATIONAL FORMATION OF STUDENTS, FACULTY MEMBERS, RESEARCHERS AND ADMINISTRATIVE STAFF TO GUARANTEE THAT THE PRODUCTION OF KNOWLEDGE SUPPORTS SOCIETY AND PROJECT THE UNIVERSITY INTO THE INTERNATIONAL SCENARIO.

VISION

UFSCAR WISHES TO CONSOLIDATE, EXPAND AND BECOME AN INTERNATIONAL REFERENCE IN ITS STRATEGIC AREAS, REINFORCING THE FORMATION OF HIGHLY QUALIFIED HUMAN RESOURCES NATIONALLY AND INTERNATIONALLY RECOGNIZED.

VALUES

- EXCELLENCE IN RESEARCH AND INNOVATION;
- CONTINUOUS PROMOTION OF FORMATION;
- INTERNATIONAL VISIBILITY;
- IMPROVEMENT OF INTERNATIONAL RANKINGS;
- RESPECT AND COMPROMISE WITH THE RETURN OF EDUCATIONAL AND SCIENTIFIC INVESTMENTS TO SOCIETY.

INTRODUCTION

The main motivation for this Strategic Plan for Internationalization of the Federal University of São Carlos (PEI-UFSCar) was marked by the need to draw a real and updated scenario of the Institutional actions focused on the Internationalization process. It is not only for the support of the Graduate Programs (GP) but also to rethink how such strategies are related to the Undergraduate Programs, research and extension courses, in the context of academic and administrative units, which are focused on a current analysis aimed at the future. The SPI aims to aggregate new actions that are able to broaden and leverage future strategies, extend internationalization at UFSCar, being aware that this process must be articulated with them¹.

Thus, considering the need to constitute a commission that could rethink how its academic units and centers might redraw a structured process to allow greater participation of these agents to construct a draft version of the internationalization plan, several members were appointed to the PEI commission. These members are able to reorganize support processes and facilitate the decision-making process regarding UFSCar's strategic research areas based on the institution's mission and values. The overall aim is to attain Institutional objectives attempting to update resource management, and particularly monitoring indicators, which will serve to readjust processes and reallocate human and financial resources.

To this end, we considered it appropriate to include in this SPI the UFSCar mission, as a way to sustain and preserve its fundamental pillars. According to the 2013-2017 Institutional Development Plan (PDI), UFSCar's mission is associated with its fundamental activities, in other words, teaching, research, and outreach. Those are the three main focus of activity that

inseparably solidify the mission of this university to teach, research, produce knowledge and make it accessible. In short, UFSCar mission involves both educational formation, research, and interaction with different segments of society for sharing and (re)constructing knowledge. In turn, this mission comprises principles that express its *raison d'être* and values. During the participative process of developing the PDI, the academic community elected the principles that expose their consensually shared bases, the fundamental and determinant compromises of their action plans, which are: 1 - Academic excellence; 2 - University engaged with society; 3 - Free public education at undergraduate and postgraduate level; ; 4 - Indissociability between teaching, research and outreach; 5 - Accessibility, inclusion and equity; 6 - Free access to knowledge; 7 - The University as a promoter of democratic values and citizenship; 8 - Democratic, participative and transparent administration; 9 - Environmentally responsible and sustainable university; 10 - Valuing of full-time dedication to teaching, research and extension; and 11 - Integration of the university into the national education system.

In this context, considering UFSCar's main mission, which is academic excellence, it could be based on strategies ruled by international quality standards. Thus, there is a need to constantly adjust the process dynamics that could maintain the standards of excellence.

Therefore, with the PEI, and aligned with UFSCar's principal mission, we foresee the articulation of the actions focused on the following priority goals:

INSTITUTIONAL INTERNATIONALIZATION PLAN GOALS

- Identify the Institutional priority areas for Internationalization from 2018 to 2022;
- Improve the infrastructure and administrative support to promote greater interaction among UFSCar priority research, boosting the priority areas;
- Create indicators for evaluation, monitoring and feedback of processes involving internationalization, supporting and rewarding the agents involved with the search for excellence, in the formation of qualified human resources and the production of knowledge through interdisciplinary research in emerging and strategically focused areas;
- Support and invest in the attraction and formation of faculty, students and administrative staff, in new information technology, improving and creating new network interaction in research, focusing on strategic countries.



UFSCAR: 4 CAMPUSES

SÃO CARLOS,
ARARAS,
SOROCABA AND
LAGOA DO SINO



BRAZIL'S **TOP 10**
(QS AND RUF)
LATIN AMERICA'S
TOP 18 (THE)

INDICATORS



98% Ph.D. FACULTY MEMBERS
99% EXCLUSIVE DEDICATION
STAFF SYSTEM



MORE THAN
300 RESEARCH
LABS



56 GRADUATE
PROGRAMS



1200 MASTER AND
Ph.D. TITLE
HOLDERS/YEAR



MORE THAN **150**
INTERNATIONAL
COOPERATION AGREEMENTS



UFSCAR: A BRIEF HISTORY, ITS CAMPUSES AND ACADEMIC CENTERS

UFSCar is a public institution of higher education, linked to the Ministry of Education (MEC) and the only Federal University with campuses in the countryside of the state of São Paulo. UFSCar was created in 1968, and it began its educational activities in 1970. Since its conception, UFSCar has had a strategic focus in the scientific-technological field, acting creatively in the process of responding to the social demand for cutting-edge, autonomous and multidisciplinary technology. Such a response could only be achieved by constantly encouraging the development of research, offering excellent and innovative undergraduate majors and outreach courses, and still trying to interact with the advanced industrial complex, also forming professionals with qualifications at the masters and doctoral degrees.

In terms of teaching, it is possible to identify in different documents the concern to innovate, as well as not to create undergraduate courses that would duplicate existing undergraduate courses at the University of São Paulo at the São Carlos campus; yet encouraging the creation of important undergraduate courses for society, with different approaches. The quality assurance in teaching was assumed directly proportional to the qualification of the faculty and administrative staff, a view that currently remains. Therefore, the high level of academic qualification and the hiring of almost all faculties in a full-time and exclusive dedication system are results of the upholding established guidelines established guidelines, since the beginning of the university. Another important strategic focus is the expanded support for the formation of faculty members and administrative staff, with the purpose of maintaining and increasing high-level professional qualification, in Brazil and in other countries. In this context UFSCar stands out for the high level of academic qualifications of its faculty members and for the

hiring of almost all faculty in an exclusive dedication system.

UFSCar offers quality public tuition-free education to approximately 16,000 undergraduate students and 6,000 graduate students. Today, UFSCar has 4 Campuses. São Carlos Campus is located in the city of São Carlos. In that campus, 42 of the 56 graduate programs belong to three academic centers: Center for Biological and Health Sciences (CCBS), Center for Exact Sciences and Technology (CCET) and Center for Education and Human Sciences (CECH).

In CCET there are 3 important Graduate Programs: Materials Engineering, Chemical Engineering, and Chemistry. There are other related programs that focus intensely on proposals for innovation and technology: Production Engineering, Structures and Civil Construction, Computer Science, Physics, and Mathematics.

Among the leading Undergraduate Programs in Brazil, those in the technological areas also receive emphasis, with topics focused on innovation and strong relationship with companies, for the development of new products and processes, and, more recently, 2 Programs in Biotechnology (Campus São Carlos and Sorocaba), with a multidisciplinary interface. In CCET there are 3 international reference programs: Materials Engineering, Chemical Engineering and Chemistry, all graded with the highest score (7.0) by CAPES. In CCET there are other important Graduate Programs that give solidity to the proposals for innovation and technology that are related: Production Engineering, Urban Engineering, Structures and Civil Construction, Computer Science, Statistics, Physics and Mathematics.

In CCBS, the strategic areas are focused on the themes of Physiology, Genetics and Evolution and Environmental Sciences. The Graduate Program in Physiotherapy (PPGFt), the first in the country, for its four-year assessment has

been graded 7.0 by CAPES. Other pioneer programs in Brazil interface with the areas of Rehabilitation, Nursing, Occupational Therapy (the only one in Latin America) and Gerontology, the third program created in this area in Brazil.

In CECH, three programs are graded 6 by CAPES, with consolidated experiences of internationalization. The Graduate Program in Special Education (PPGEEs), created in 1978, was an innovative program at that time, given the intense demand for qualified human resources to work in this area, having been scored 6.0 by CAPES since 2006. The Graduate Program in Sociology (PPGS), created in 2007, brings together a group of distinguished national and international researchers, and was inaugurated with grade 5 by CAPES, to be later (in 2013) included in the programs of excellence, and obtained grade 6. This GP is marked by lines related to the themes of culture, inequalities, ruralities, development and environmental sustainability. The GP in Psychology (PPGpsi), with an area of concentration in behavior and cognition, began its activities in 2008 (master's and doctorate, graded 5 at CAPES) and won the 6 grade in the last evaluation four-year period. CECH also has other outstanding programs: the GP in Education (PPGE, graded 5), the first in education in the country, created in 1975; Political Science (PPGPol); Social Anthropology (PPGAs); Philosophy (PPGfil) graded 5; and Science, Technology and Society (PPGCTS); Literature Studies (PPGLit), Linguistics (PPGL); Professional in Education (PPGPE) all graded at 4.

This program covers research related to themes on culture, inequality, rurality, development and environmental sustainability. Recently, the graduate program in Psychology has been graded 6.0 by CAPES, becoming part of the set of programs of excellence at UFSCar. In addition, other important programs strengthen the themes presented, for example, Political Science and Social Anthropology, both graded 5.0 by CAPES.

Araras campus, created in 1991, has only one academic center, the Center for Agricultural Sciences (CCA) with 4 recent graduate programs. These programs, though recent, bring particularly innovative aspects, which include agribusiness, agricultural industry and public policies for rural development. These programs have rapidly achieved potential prominence, especially in technical areas related to bioprocesses for genetic improvement of sugar cane, vegetables, and citrus, with particular emphasis on the national and international scenarios.

Sorocaba campus was created in 2005, and today it has three academic centers, the Center for Science and Technology for Sustainability (CCTS), the Center for Human and Biological Sciences (CCHB) and the Center for Science in Management and Technology (CCGT). The prominent programs in this campus, though recent (created in 2007), research on environmental conservation, biotechnology, and sustainable development, and support the rich regional technology park by boosting research focused on administration and the development of new products and processes, in addition to providing information about important environmental conservation units of the Atlantic Forest present in the region.

Finally, the last and most recent campus - Lagoa do Sino - was created in 2014. It is located in the city of Buri, in the countryside of the state of São Paulo. It is comprised of one academic center, the Center for Natural Sciences (CCN) currently offering only undergraduate courses. However,

several faculty act in graduate programs of the other campuses, and their research already shows potential for the campus of Lagoa do Sino in research areas involving the themes related to sustainable development, food security, and family agriculture.

In general, in the four campuses of UFSCar, land use and activities in general are guided by principles of sustainability and environmental preservation, which helps to compose a landscape of great beauty and peace for the accomplishment of the variety of academic activities. Also, in all campuses, faculty members develop teaching activities, research, and extension, with 98% holding the title of PhD., which is one of the highest concentration of teaching staff qualified to PhD level among the Institutions of Higher Education in Brazil. The hiring policy in the full-time and exclusive dedication system of 99% of faculty and the historic personnel formation policy, along with the implementation of an effective inseparability between teaching, research and extension have an impact on the university's scientific production.

It is interesting to observe that, in recent years, the Federal Universities have contributed greatly to the educational formation of PhD. researchers, compared to the other Institutions of Higher Education². Another aspect of our institution is the human resources formation, which along with USP-São Carlos, makes the city of São Carlos with the largest number of PhD. titled inhabitants in Latin America^{3,4}. Altogether, there are 1,700 PhDs in a municipality of 230,000 inhabitants, which represents one PhD. for every 135 inhabitants. Brazil has one Ph.D. for every 5,423 inhabitants⁵. Thus, UFSCar has a noteworthy transformative potential, for the economic, cultural and social development of the city of São Carlos and region.

NATIONAL AND INTERNATIONAL INDICATORS

In its forty-eight years of existence, UFSCar has become one of the most recognized institutions of Higher Education in Brazil and Latin America⁵. In 2018, UFSCar was ranked by QS World University Rankings⁶ 10th among the best Brazilian universities, and ranked 10th by RUF (2017 Folha University Ranking)⁷. Regarding internationalization, it was ranked 15th in Brazil. However, it holds 8th place position in terms of international citations by faculty⁸ and the 9th position in RUF in terms of research⁹. UFSCar was ranked 18thth among the best universities in Latin America¹⁰ according to the Times Higher Education (THE) Ranking. The goals for the next 4 years are to improve national and international indicators.



SÃO CARLOS CAMPUS

Founded in 1968

- 645 hectares
- 196,000m² of constructed area
- 3 Academic Centers (CCBS, CCET and CECH)
- 42 Graduate Programs
- 7 World-class Graduate Programs



ARARAS CAMPUS

Founded in 1991

- 230 hectares
- 25,000m² of constructed area
- 1 Academic Center: CCA
- 4 Graduate Programs



SOROCABA CAMPUS

Founded in 2006

- 70 hectares
- 48,000 m² of constructed area
- 3 Academic Centers: CCTS, CCHB and CCGT
- 10 Graduate Programs



LAGOA DO SINO CAMPUS

Founded in 2011

- Located at the city of Buri (SP), 130km from Sorocaba
- 643 hectares
- 15,000 m² of constructed area
- 1 Academic Center: CCN
- 5 Undergraduate courses focused on Regional Sustainable Development, Sovereignty and Food Security, and Family Agriculture
- Undergraduate courses in Agronomic, Environmental and Food Engineering. In 2016, the campus started offering Undergraduate courses in Conservation Biology and Administration.





ANALYSIS OF UFSCAR'S STRENGTHS AND WEAKNESSES IN RELATION TO INTERNATIONALIZATION

STRENGTHS

- Internationally recognized world-class postgraduate programs
- The existence of consolidated partnership in strategic countries
- Highly-qualified faculty members
- Encouragement for academic and professional continuing development
- Well-equipped laboratories
- Support and focus of the institutional higher administration on the strategic plan for internationalization

OPPORTUNITIES

- Expansion of international cooperation, especially through CAPES agreements
- Expansion of strategies for attracting foreign resources and international scholarships
- Expansion in the use of new technologies for faculty and researcher participation in examination boards, tutoring meetings and collaborations
- Expansion of the possibilities to access international databases for support in multicentric research

WEAKNESSES

- Campuses far from the main airports
- Lack of bilingual support from administrative and technical staff
- Insufficient offer of graduate courses in English
- Need for improvement of internal processes to support internationalization (infrastructure, staff, and information technology support) in the multicampus format
- Need for financial resources to expand language teaching strategies and English text revision

THREATS

- Political and financial instability
- Institutional budget cuts to provide internationalization promotion
- Difficulty in receiving and processing international resources
- Competitiveness with the other Higher Education Institutions of the Brazilian Southeast Region

UFSCAR ADMINISTRATION, ITS SUPPORT FOR PEI AND MAIN STRATEGIES

Nowadays, the University administration is exerted through the policies implemented by the Presidency office and 7 Dean's offices: Undergraduate Dean's Office (ProGrad), Graduate Dean's Office (ProPG), Research Dean's Office (ProPQ), Outreach Programs and Projects Dean's Office (ProEx), Community and Student Affairs Dean's Office (ProACE), Human Resources Dean's Office (ProGPe) and Administration Dean's Office (ProAd). All Dean's offices will have a quota of UFSCar Strategic Plan for Internationalization, along with extensive support from the International Relations Office (SRInter), the Planning and Institutional Development Office (SPDI), and the Institutes of Languages (IL) and Advanced and Strategic Studies (IEAE). In addition, the Institutional Support Foundation (FAI) and the Innovation Agency play an important role in the Internationalization plan, as they will mediate possibilities for support in research and innovation.



ProGrad is responsible for the definition of undergraduate education policies, among these coordinating actions with ProPG and ProPq to support and encourage scientific initiation through different undergraduate scholarship opportunities. ProGrad also works closely with SRInter to increase the opportunities and initiatives for undergraduate student mobility, expanding the possibilities for exchanges with other foreign institutions. In addition, ProGrad promotes faculty formation and continued development, by offering courses and activities focused on different didactic methods in Higher Education.

PROGRAD COLLABORATIVE GOALS WITH SRINTER AND PROPG FOR PEI

- Support and encourage International Scientific Initiation (undergraduate research).
- Expand academic mobility (incoming and outgoing).
- Encourage faculty formation.
- Develop policy for credit recognition within student mobility.
- Encourage the offering of foreign language courses for undergraduate students.



ProPq has an important role in the administration of several programs to promote research activities, such as the Institutional Program for Scientific and Technological Initiation Scholarships (PIBIC and PIBITI), Young Talents for Science Program (CAPES), UFSCar Post-Doctoral Program, accreditation of Research Groups (CNPq) supporting the international exchange of researchers and Research Infrastructure Programs (FINEP). That way, ProPq also aims to support, along with ProGPe, faculty leave for post-doctoral formation, especially abroad, enhancing the internationalization actions of the graduate programs. ProPq also evaluates UFSCar indicators of scientific and technological production.

PROPQ COLLABORATIVE GOALS WITH PROGPE AND PROPG FOR PEI

- Support and encourage faculty formation.
- Expand the interactions of national and international Institutional research.
- Evaluate and re-evaluate the indicators of the researchers' scientific production.
- Articulate and strengthen the interactions among national and international researchers into the priority areas.

ProACE is responsible for the administration, in the four campuses, of university activities directly connected to the quality of life of personnel (faculty and administrative staff) and students. To that end, the PROACE mission is to plan, coordinate, promote and evaluate actions of support and assistance to the university community. ProACE therefore has a central role in the internationalization

plan because it allows equal opportunities in relation to the academic activities of Brazilian and foreign students, creating and establishing actions focused on the quality of university community life.

PROACE COLLABORATIVE GOALS WITH PROPG AND SRINTER FOR PEI

- Promote interaction among foreign and Brazilian students.
- Provide support and assistance to the university community, including foreign students.





ProGPe formulates and executes the administrative policy for institution personnel, analyzing and planning, with the other academic and administrative offices, the institution workforce, elaborating quantitative studies that allow evaluation, dimensioning, and allocation of staff members. The office conducts initiatives in personnel development, qualification, training, recruitment, selection and evaluation. It is responsible for the organization and implementation of activities for faculty leave for educational formation. Recently, ProGPe, along with ProPG, has prepared the first public notice to UFSCar Foreign Visiting Faculty, in the English and Portuguese languages. UFSCar Institutional Administration wants to support Internationalization strategies by hiring foreign visiting faculty as well as permanent foreign faculty in the future.

PROGPE COLLABORATIVE GOALS WITH PROPG FOR PEI

- Expand staff member formation and training for qualification and support to foreign students.
- Expand personnel selection and evaluation, in order to increase the number of foreign faculty members.
- Support the faculty formation for experience abroad and monitor the results through indicators of production and knowledge transfer.

ProEx is the sector responsible for the administration of extension activities aiming to produce, systematize and disseminate knowledge, developing research activities and inclusive education with external sector demands (from several segments of the population) through extension actions that fulfil the principle of indissociability between teaching, research and extension activities. Among the proposals for extension projects, the Language Institute promotes, through extension activities, language courses for students, faculty members, and administrative staff, as well as aiding assistance services, proficiency exams for graduate programs, and also socio-cultural activities and reception of foreign students.

PROEX COLLABORATIVE GOALS WITH PROPG FOR PEI

- Encourage and support the offer of different extension activities with a focus on internationalization for students and faculty members.
- Encourage, through extension projects, a connection among foreign students, and other students of the institution, allowing an exchange of knowledge and culture.





Finally, the main attributions of ProAd are to coordinate and execute the processes related to the budget, financial, accounting, and patrimonial demands and purchasing services, aiming to enable the adequate accomplishment of the institution's global activities. The main central objectives of the PEI, through institutional actions, are to provide resources to promote greater internationalization in the actions of SRInter, ProPq, and ProPG. In addition, ProAd has recently taken on the role of coordinating cross-sectional actions for the evaluation and optimization of administrative processes and the deepening of the use of information technology tools to conduct them, supporting the use of IT resources for the Internationalization of the Graduate Programs.

PROAD COLLABORATIVE GOALS WITH PROPG FOR PEI

- Provide resources for UFSCar linguistics policy.
- Implement new information technologies with the objective of expanding and updating the management of administrative, financial and monitoring internationalization strategies.
- Increase the promotion of faculty, student and administrative staff mobility, providing resources for this purpose.
- Provide a means of international identification for UFSCar, enabling financial resources to give greater internal and external visibility, inside the campus (bilingual signs) along with a bilingual institutional website.
- Optimize internal procedures related to the processing of resources coming from foreign universities through international cooperation projects and agreements.

PROPG AS THE ADMINISTRATIVE UNIT OF THE STRATEGIC PLAN FOR INTERNATIONALIZATION (PEI)

ProPG has the attributions of planning, coordinating and supervising the academic activities of the Graduate Programs. In addition, this Dean's Office has a central role in establishing the administrative policies to support and expand the strategies of Internationalization of the Graduate Programs. ProPG, with the other Dean's Offices, Academic Departments, and Institutes have aligned articulated actions to coordinate, support, boost and monitor the activities related to the internationalization of the graduate programs. Among the actions, we can cite those related to:

PROPG ONGOING ACTIONS FOR THE PEI IMPLEMENTATION

- a) Creation of Resolutions to organize and regulate foreign students' activities;
- b) Support of the "internationalization at home" activities, such as hiring foreign visiting faculty for assistance in foreign languages courses in the Graduate Programs;
- c) Update the PROPG website to improve UFSCar and its Graduate programs international visibility;
- d) Articulation of actions with the Languages Institute (IL), the Advanced and Strategic Studies Institute (IEAE) and the International Relations Office (SRInter) to potentiate and organize the actions to support the PEI;
- e) Expansion of international graduate student mobility (outgoing and incoming);
- f) In a collaborative way with SRInter and the Languages Institute: support support the reception of foreign students from the mobility programs;
- g) Encouragement and expansion of the use of the English language in teaching on graduate programs.
- h) Assistance to SRInter in order to incorporate, in the cooperation agreement documents, the implementation of courses abroad, and their credit recognition in the graduate programs;

AS MEDIUM AND LONG-TERM ACTIONS, WE CAN CITE:

PROGP ACTIONS FOR THE 2018-2022 PEI

- a) Support for faculty, student and administrative staff formation, through long and medium-term scholarships abroad, in strategic countries;
- b) Encouragement of the exchange of new knowledge acquired abroad, through courses, internships, new projects and encouragement of temporary and definitive hiring;
- c) Standardization of co-tutorship, double-degree and recognition of course credits taken abroad, for strategic countries;
- d) Monitoring of outcome indicators (number of courses in foreign language added to the program, scientific achievements) to each held product and process, such as internships abroad, implemented scholarships, missions, etc.;
- e) Encouragement of research groups to enhance collaboration with foreign researchers in strategic countries;
- f) Realignment of actions after internal and external indicators (national and international rankings);
- g) Promotion of broader integration between foreign researchers in UFSCar through an annual workshop for the presentation of the main outcomes of their research projects and contributions from their homeland;
- h) Strengthening of the institutional repository to enhance UFSCar international visibility.

FAI 
UFSCar


inovação




THE UFSCAR INSTITUTIONAL SUPPORT FOUNDATION (FAI) AND INNOVATION AGENCY AND THEIR RELATION TO THE PEI

The Institutional Support Foundation for Scientific and Technological Development of the Federal University of São Carlos (FAI - UFSCar) is a private law, non-profit entity created in 1992, certified by the Ministry of Education and the Ministry of Science, Technology and Innovation, the mission of which is to support the academic community in accomplishing their teaching, extension and research activities, with the purpose of providing scientific and technological development and encouraging innovation. FAI has a major role in the administration of resources and investments, due to its faster and less bureaucratic project management, so it has become UFSCar's chosen way of managing PrInt resources. FAI relies on highly qualified infrastructure and personnel to manage FINEP encouraged projects, among other agencies.

The UFSCar Innovation Agency, a unit with its own president, is responsible for dealing with Intellectual Property within the university. Its mission is to mobilize and prepare personnel to innovate and endeavor to transform society.

The Innovation Agency encourages and supports University researchers to have the outcomes of their scientific research reach society, through transferring of product technology and innovative services. Thus, protection and transferring of creations developed by researchers, students and faculty members, apart from monitoring of the relationship between the university and companies in national and international levels, are amongst the Innovation Agency attributions and achievements. The Agency also develops actions aiming for encouragement linked to academic innovation.

Technology Innovation Branches are often named internationally as "technology transfer office" or "technology licensing office", apart from other possible names, and they are often present in higher education institutions with meaningful participation in research and innovation. Whenever necessary, UFSCar Innovation Agency acts in combination with FAI or relies on their resources.



UFSCAR INNOVATION AGENCY — DIAGNOSING ITS INTERNATIONALIZATION

The UFSCar Innovation Agency has achieved 169 patent deposits in Brazil, and 51 deposits abroad, resulting in 30 concessions in Brazil and 22 abroad. Besides the patents, the Innovation Agency has accomplished the registration of 31 cultivars, 35 computer software products and 26 trademarks; thus, it has acted in the management of 312 University intellectual property assets. So far, the Innovation Agency has supported the celebration and management of 133 license contracts: 108 cultivars, 20 patents and 3 computer software products, also 2 brand-licensing contracts regarding Brazilian companies. Due to the initiative of licensed companies, or that of researchers themselves, some of the technologies have acquired international insertion.

In a brief strategic internationalization analysis of the Innovation Agency, one of the main forces refers to the existence of research groups with potential to create innovative products and services with the potential for global impact, especially in agriculture, materials, chemicals and health areas. It is also worth highlighting outcomes in the physics, biotechnology and information technology fields. The main

weakness has been the low participation in world market, whether in market prospection, technology diffusion, foreign-based companies licensing contracts handling, and international insertion of UFSCar asset-based products. In addition to those weaknesses, part of the Innovation Agency personnel is not properly proficient in foreign languages and neither in experience with international professional colleagues.

The modest international insertion of UFSCar asset-based products does not reflect the high potential outcomes that have been attained by university researchers. The UFSCar Strategic Plan for Internationalization, attached to the Institutional Internationalization Program (CAPES-Print, public notice no. 41/2017), provides opportunity for reflections on current practices to support encouragement for innovation, the elaboration of a strategic vision and goals aiming to stimulate and support university researchers, in order to have the outcomes of their scientific research and innovation effectively inserted in the marketplace and allow society improvements, in an international context.

UFSCAR INNOVATION AGENCY — STRATEGIC VIEW REGARDING INTERNATIONALIZATION

It is understood that the role of the Innovation Agency in UFSCar process of internationalization is to elaborate strategies and actions to internationalize university innovations, embodied in intellectual property and technology transfer management, alliances in Research, Development and Innovation (PD&I) and entrepreneurship, providing university community formation, with the encouragement and support to accomplish such activities.

STRATEGIC VIEW

- Encourage and empower researchers, students and faculty members to innovate and endeavor in an international context;
 - Search for insertion of research outcomes in society in order to enlarge its impact, not ceasing to insert globally innovative products with such potential.
-

UFSCAR INNOVATION AGENCY — GOALS FOR THE NEXT FOUR YEARS

(A) QUALIFICATION OF THE INNOVATION AGENCY TEAM, THE RESEARCHERS, FACULTY MEMBERS AND STUDENTS (EXTERNAL AID REQUIRED)

- Innovation Agency team qualification, aiming to increase their proficiency in foreign languages, experience in internationally-focussed activities, and interchanges with notable institutions (mobility, courses);
- Researcher, student and faculty empowerment, and encouragement to establish international research, innovation and entrepreneurship networks.

(B) SUPPORT TO INTERNATIONALIZATION ACTIONS (EXTERNAL AID REQUIRED):

- Participation in international rounds of technology negotiation;
- Participation in international empowerment events, networking and support for innovation and technological entrepreneurship;

(C) ADJUSTMENT IN OPERATIONAL PROCEDURES (IT IS POSSIBLY ACCOMPLISHED INTERNALLY, RELYING ON THE SUPPORT OF ITEMS A AND B):

- Performing market-wise analyses, supporting the elaboration of negotiation models and trade plans in an international context;
- Adjusting scientific dissemination and diffusion mechanisms, opportunity prospection mechanisms for innovation sponsoring and startup support, for international context;
- Elaborating international versions of public notices, contracts and documents;
- Whenever technological advances show international impact, performing market prospections and launching public notices to select bilingual-licensing companies, with selection features aiming at the international insertion of technologies.



**THE INSTITUTES
AND THEIR
RELATION WITH THE
STRATEGIC PLAN FOR
INTERNATIONALIZATION**

LANGUAGES INSTITUTE (IL) AND LANGUAGES WITHOUT BORDERS PROGRAM (ISF)

To assist the Strategic Plan for Internationalization, we count on the articulated infrastructure of UFSCar Languages Institutes (IL), designed in 2016, and the 2013 Languages Without Borders Federal Program (IsF), that provide supportive linguistic and cultural activities to foreign students, undergraduate and graduate students, faculty members and administrative staff.

IL is a multi-subject unit responsible for the linguistic policies in UFSCar, which also converges teaching, research and extension, regarding its mission of developing, monitoring and evaluating UFSCar implemented linguistic policies, recognizing demands and planning actions to spread language and cultural knowledge and forming pre-service teachers to act on this field.

Among the activities offered by IL, there are language courses, translation, interpretation and text revision, thematic workshops, as well hosting foreign students in academic mobility and alongside other units, providing a friendly environment for experience interchange among people from different cultures and languages.

To reach its goals, IL relies on four coordinations: a) language teaching; b) proficiency exams; c) translation, interpretation and revision; d) collaborative network. In language teaching coordination, the institute focuses on sequential courses of English, Spanish, Brazilian Sign Language (LIBRAS), Portuguese as a foreign language (PLE) and other foreign languages depending on the offering conditions. Having specific demands, IL tries to attend to these by offering workshops and short-term courses. As the institute is related to the general linguistic policies, IL also promotes actions with indigenous languages represented by researchers or members of indigenous communities as linguistic and cultural workshops. There is also the promotion of activities in Portuguese (Text Reading and Production), specially for academic purposes.

In the Proficiency Exam Coordination, Spanish, French and English tests are offered, certifying graduate students or applicants for UFSCar Graduate Programs. As for the Translation, Interpretation and Revision Coordination, translation works between Portuguese/English, Portuguese/Spanish, as well as text revision in those languages and interpretation between Portuguese/LIBRAS in ceremonies and events.

The effort of the Collaborative Network Coordination is to

integrate students and researchers in academic mobility, providing activities that promote from linguistic to cultural skills, considering the diversity and needs of different communities represented in UFSCar.

The IsF Program purpose is different from IL, because it is a federal initiative, and there are not sequential courses in it, nor activities involving, for instance, translations, having its focus in specific objectives such as: foreign language practices for academic purposes, for instance with courses in academic writing of scientific articles in English. However, modular courses also reach conversational and pronunciation skills, reading strategies and development of linguistic skills with focus on social and academic environment, and English as an international language in use. In addition, IsF also promotes preparatory courses for proficiency exams (TOEFL-ITP) as well as the application of the exam. Since 2017, IsF program started to serve, also, academic needs regarding Spanish and Portuguese as a foreign language – always focusing on scientific academic genres.

It is worthy remembering that English courses with academic purposes has been offered by IsF since 2014. More recently, IsF has created the English as a Medium of Instruction (EMI) course, aimed at faculty members interested in offering their subject courses in English. In 2018, a course strongly invested in EMI is being offered by IsF teachers with the already-approved support of 3 north-American English Teaching Assistants (ETAs), selected by the Fulbright program, within a faculty's project.

Thus, UFSCar relies on those two-linguistic skill-development-purposed structures complementing each other, whilst IL is responsible for the general policy and IsF aims at specific academic activities. That way, IL and IsF have been developing the linguistic policies for UFSCar internationalization, also capable of enhancing and improving their performance.

For greater integration and utilization of mobility through academic international community, UFSCar offers, through notable Portuguese as foreign language centers, "Portuguese for foreigners" courses. Created in 1995, in the last six years these courses had 1.026 enrollments, reaching students from a total of 69 countries. It is also noticeable that UFSCar is a center for the application of CELPE-BRAS tests an official proficiency certificate of Portuguese as a foreign language.

ADVANCED AND STRATEGIC STUDIES INSTITUTE (IEAE)

The IEAE was recently implemented (2016) a leading role in supporting and developing research projects and research cooperation networks policies, necessarily contributing with internationalization, aiming at current strategic advances. IEAE/UFSCar relies on the relevance of University contributions to an educational, scientific, cultural and artistic plan, in order to develop advanced and strategic studies, encompassing several fields of knowledge for natural and socially sustainable development of human society, aiming for guarantees of equality, social justice, peace and national sovereignty.

In this context, IEAE/UFSCar has as mission to know UFSCar reality and qualities to develop advanced strategic studies, of a forward-looking inter, multi and transdisciplinary character, pointing to relevant actions and paths for huma-

ne and sustainable development. The proposed themes for this PEI have been developed in a way that the Management group might be nominated to act in IEAE, to institutionalize the actions, creating innumerable networking and partnership possibilities in our Institute. The IEAE purpose is to conjoin workgroups to: 1) encourage thematic cooperative and interdisciplinary work, considering competencies, available infrastructure and currency of themes with common, forward-looking objectives; 2) provide to the participants an adequate forum for inter and multidisciplinary teamwork, developing reliable databases and disclosing analyses and tools and interaction among participants; 3) contribute with the formation of a cooperative culture to solve inter and multidisciplinary issues of high global relevance.

The background of the page is a teal-tinted photograph of a modern building with large windows and several trees in the foreground. The text is overlaid on this image in a bold, white, sans-serif font.

THE OFFICES AND THEIR RELATION WITH THE STRATEGIC PLAN FOR INTERNATIONALIZATION

THE INTERNATIONAL RELATIONS OFFICE (SRINTER)

The SRInter mission is to guide and support the development of UFSCar international relations policies through the promotion of cooperation and academic and scientific mobility between UFSCar and foreign institutions.

Amongst the activities to promote UFSCar internationalization, the objectives and respective actions are:

a) To induce and consolidate internationalization at UFSCar having institutional growth and quality of academic activities.

b) To institutionalize already-existing international academic partnerships intermediating and proposing cooperation agreements compatible with the activities to be developed in cooperation (general/specific agreements for faculty mobility and/or student/collaborative research, etc.);

c) To establish new partnerships through academic cooperation agreements whether by faculty/researcher demands in response to notices of development agencies (SPRINT/FAPESP, CAPES), or by peer prospecting actions developed by SRInter itself and the UFSCar Presidency Office.

d) To advise and give operational aid to several academic units in implementing and executing and internationalization-attached aspects and actions.

e) To release, support and host missions, delegations and foreign visits at UFSCar with strategic data presentation regarding research areas/publications between UFSCar and the visiting country/university (survey on Web of Science);

f) To guide faculty members regarding drafting of acceptance letters/declarations for consular visa or formalization of UFSCar interests in submitting research project proposals to national and international development agencies.

g) To guide solicitation of consular visas for undergraduate and graduate students, faculty members, visiting researchers for incoming and outgoing mobility.

h) To host international mobility students under the PEC-G program scope regarding migration regularization with the Federal Police, visa renewal, and articulations with the Ministry of External Relations for the solution of specific migration problems.

i) To participate, along with ProACE, in the elaboration of public notices and selection for the PROMISAES scholarships (Milton Santos Project for Higher Education Accessibility/MEC) to PEC-G students;

j) To host graduate students under the scope of the following programs: PAEC-GCUB-OEA (Alliances for Education and Capacitation Program); PROPAT (Graduate scholarship program in Cattle breeding and tropical agriculture Brasil-México); PEC-PG (Graduate Student Alliance Program); TWAS (Postgraduate Fellowship Programme/CNPq); foreign post-doctorates and orientation regarding regularization of immigration situations with the Federal Police, visa renewal, passport renewal, specific cases of visa renewal abroad, CPF document acquisition, bank account opening, etc.;

k) To participate in processes of academic cooperation project submission to development agencies, which affects institutional articulation (receiving partner institutions and discussing proposals) as well as in providing UFSCar institutional data (undergraduate and graduate programs, research, human resources, innovation, etc.);

l) To act in operationalization of the process of requiring credit recognition of returning undergraduate students to UFSCar from the contact with the Undergraduate Major Coordination to the referral of the credit recognition with the Academic Control Office (DiGRA);

m) To guide undergraduate students awarded with national and international fellowships from development agencies regarding their status at UFSCar, as well as for the students in international curricular internships;

n) To disseminate international academic opportunities in the UFSCar community, directing them to majors or programs/specific academic departments/faculty members when the focus is a specific knowledge area, as well as student and faculty mobility coordinated by SRInter;

o) To provide information about UFSCar to the internal academic community, as well as international community (to provide timely information to faculty members and researchers in order to have them represent and introduce UFSCar in national and international events or in research project proposal submission to development agencies);

p) To guide faculty members/researchers regarding participation in international agencies' projects such as European Commission Program (Erasmus +), the "Newton Fund" Program, as well as coordinating UFSCar participation in cooperation projects involving university networks.

PLANNING AND INSTITUTIONAL DEVELOPMENT OFFICE (SPDI)

SPDI plays an important role in the PEI, since its goals are coordinating activities related to elaboration, monitoring and evaluation of institutional strategic planning, at every level. Moreover, SPDI has the responsibility of collecting, updating, and publishing official institutional statistic and registration data, especially on scientific-academic production, analyzing and publishing internationalization data, research groups and single researchers. In addition, it supports implemented actions by the institutional repository, coordinated by the li-

brary system (SIBI), comprising the libraries of all 4 campuses.

Thus, UFSCar Dean's Offices, other offices and Institutes have strong inter-relations to support, enhance and enlarge internationalization strategies, encompassed by this plan, and they will work with indicators to assess, monitor and re-evaluate the outcomes with the institutional project proposal to be implemented through the CAPES-PRINT to foster internationalization actions.

INSTITUTIONAL GOALS OF THE 2018-2022 STRATEGIC PLAN FOR INTERNATIONALIZATION. 2018-2022

UNIVERSIDADE FEDERAL DE SÃO CARLOS ufsc

A

EXPERIENCES ABROAD AND ENGLISH LANGUAGE PROFICIENCY: FIRST STEP TOWARDS INTERNATIONALIZATION

Science and technology advance quickly and, therefore, there is the need for grand global interaction, especially in the pursuit of solving more complex problems. On that note, global interaction allows intense and rich experience interchange that may overcome future challenges. Thus, international academic experiences allow overcoming these challenges and bring profound professional, social and cultural transformations. High internationalization level universities are also featured in international rankings. Therefore, UFSCar pursues, through the through the actions outlined in this PEI, not only sending students, faculties and administrative staff to experience rich opportunities abroad, but also to attract foreign students and faculty to study, teach and research in its campuses. Currently, UFSCar counts on only 5% of graduate foreign students, with 40% of those coming from Colombia and 16% from Peru. The remaining 44% come from countries such as USA, France, Haiti, Honduras, Iran, Italy, Japan, Portugal, among others.

Regarding hired and visiting faculty, around 3% of them are foreign. UFSCar wants to attract more foreign faculty, specially from strategic countries, allowing greater interaction with prime goals of this PEI. UFSCar has been publicising selection processes abroad for foreign visiting faculty, in order to enhance “internationalization at home” strategies. Moreover, institutional policies are also going to stimulate graduate programs to favor through strict selective notices for PNPd post-doctorates, aiming to attract foreign students and/or researchers with rich international experiences and proficiency in other languages, to improve “internationalization at home” strategies through offering courses that would help knowledge transfer between doctorate students abroad. Finally, faculty formation is necessary and needs to be aligned with outcome monitoring. Regarding faculty, it is necessary to enlarge their overseas experiences as well as encouraging language courses in the institution. In 2017 only, there were 454 formal faculty leave periods abroad, for post-doctoral research activities, short-term internships and missions. Around 47% of UFSCar faculty has already experienced post-doctorate internships and full-doctorate experiences abroad. However, the goal is to increase to 60% or more in the following four years, encouraging more faculty to have medium and long-term experiences abroad.

Regarding administrative staff, only 3% of them affirmed having experiences abroad and/or English language proficiency. Our goal is to increase this indicator to 10%, in order to increase not only investments in formation, but also in UFSCar staff staff renewal. This would require a CAPES policy aligned to MEC (Ministry of Education) to expand staff, especially administrative staff, remembering that the UFSCar faculty/administrative staff ratio is the smallest among the Federal Universities: 0.7 administrative staff member for each faculty member in comparison to the intended 2/1 ratio.

Regarding students sent abroad, 132 graduate students participated in the PDSE program in 2016, and in 2017, 101

were abroad for 6 to 12 month-long internships. Our goal is to double the student amount in strategic country institutions, given that the demand is larger than the supply of such fellowships in UFSCar.

GOAL #1: ATTRACTION OF MORE FOREIGN GRADUATE STUDENTS

INCREASE THE NUMBER OF FOREIGN
STUDENTS TO 10%

GOAL #2: INCREASE THE NUMBER OF FOREIGN FACULTY MEMBERS

INCREASE THE NUMBER OF FOREIGN
FACULTY MEMBERS AND VISITORS TO 8%

GOAL #3: INCREASE THE NUMBER OF FACULTY MEMBERS WITH MEDIUM OR LONG-TERM EXPERIENCE ABROAD

HAVE MORE THAN 60% OF UFSCAR
FACULTY WITH MEDIUM OR LONG-TERM
EXPERIENCE ABROAD.

GOAL #4: ENABLE ADMINISTRATIVE STAFF THROUGH INTERCHANGE PROGRAMS AND FOREIGN LANGUAGE COURSES IN UFSCAR

INCREASE THE NUMBER OF ENGLISH LANGUAGE PROFICIENT STAFF TO 10%

GOAL #5: INCREASE THE NUMBER OF DOCTORATE STUDENTS WITH EXPERIENCE ABROAD IN STRATEGIC COUNTRIES

DOUBLE THE NUMBER OF STUDENTS IN DOCTORATE EXCHANGE PROGRAMS

B STRATEGIC PARTNERSHIPS: STRENGTHENING RESEARCH CONNECTIONS

UFSCar has made a continued effort to keep strong existing partnerships in strategic countries, as well as in identifying new partners to cooperate mutually, adding new knowledge and trying to strengthen even more existing research projects. However, this movement has occurred individually among researchers and research groups. There are more than 168 scientific-academic cooperation agreements signed in UFSCar and they are current with the following strategic countries: Germany (6%), Argentina (6%), Australia (2%), Canada (3%), China (2%), Denmark (1%), Spain (14%), United States of America (9%), Finland (1%), France (10%), Ireland (1%), Italy (2%), Japan (4%), Mexico (1%), Netherlands (3%) and the United Kingdom (4%), in other words, 69% of the total amount. It is highlighted that these agreements are assured for broad partnership with the possibility of having courses held in the partner institution.

However, unfortunately, our students usually accomplish their credits in Brazil, a new culture ought to be internally created to allow that some of the credits might be taken abroad. Thus, this action will possibly result in internal regimental

changes, aiming not only to stimulate students to take courses abroad, but also to to subsequently recognize their credits in UFSCar. With the PEI, the aim is to make this cooperation network stronger, besides allowing new counterparts to be perfected, such as the inclusion of cooperation memos for the possibility of gathering produced knowledges (courses and new methods and technology knowledge), the execution of courses to be offered with institutional recognition from UFSCar in students' returns and allowing the inclusion of institutional agreements of co-tutoring research and double-degree programs. Currently, UFSCar has 15 co-tutoring and 2 double-degree agreements. For this purpose, there will be the need of producing new agreements to expand these last actions, in order to increase cooperation agreement negotiation

Finally, the collaborative knowledge production deserves to be highlighted. UFSCar institutional indicator have shown that in 2017 there was a growth in the quantity and quality of scientific productions output published in comparison to 2016, resulting in 1,209 publications in international research journals, with average impact factor of 0.63. However, only 154 were co-published with international researchers, resulting in a meaningful growth of the impact factor (to 1.21). This aspect is worth highlighting because the intention is to increase scientific output production with strategic international partners, and, therefore, to increase the impact factor and publication visibility.

GOAL #6: INCREASE COLLABORATIVE SCIENTIFIC PRODUCTION WITH STRATEGIC PARTNERS

INCREASE THE QUANTITY OF SCIENTIFIC OUTPUT WITH STRATEGIC PARTNERS IN 100%

C INTERNATIONALIZATION AT HOME STRATEGIES

Among the previously mentioned internationalization actions, in the ProPG strategies, efforts will be made to enhance the internationalization at home policy, which has already been happening over the years. However, it is necessary to expand the offer of courses in the English language, especially with the intention of attracting foreign students. In 2017, through the Graduate Programs websystem (ProGPWeb), 80 courses in English were offered in different graduate programs. ProPG has been working in hire more visiting

faculty who would be able to teach courses in common areas in different graduate programs, such as “Scientific Writing”, “Statistics”, “Scientific Methods”, “Oral and Poster presentations”. Moreover, it is necessary to encourage faculty members to teach courses in other languages to UFSCar graduate students, preparing them for internships abroad. Our goal is to increase the offering of courses in English through UFSCar Graduate Programs.

**INCREASE THE NUMBER OF COURSES TAUGHT
IN FOREIGN LANGUAGES TO 100%**



STRATEGIC RESEARCH THEME 1: STRATEGIC MATERIALS

Coordinator:

Prof^a Dr^a Lucia Helena Mascaro Sales

Institutional Manager Member:

Prof. Dr. Romeu Cardozo Rocha Filho

Prof. Dr. Estevam Rafael Hruschka Junior

SUBTOPICS:

1. MATERIALS
FOR ENERGY

2. NANOSCIENCE AND
NANOTECHNOLOGY

3. BIOMATERIALS
AND RENEWABLE
MATERIALS

4. INNOVATIVE
PROCESSES

5. MODELLING AND
COMPUTATIONAL
SIMULATION

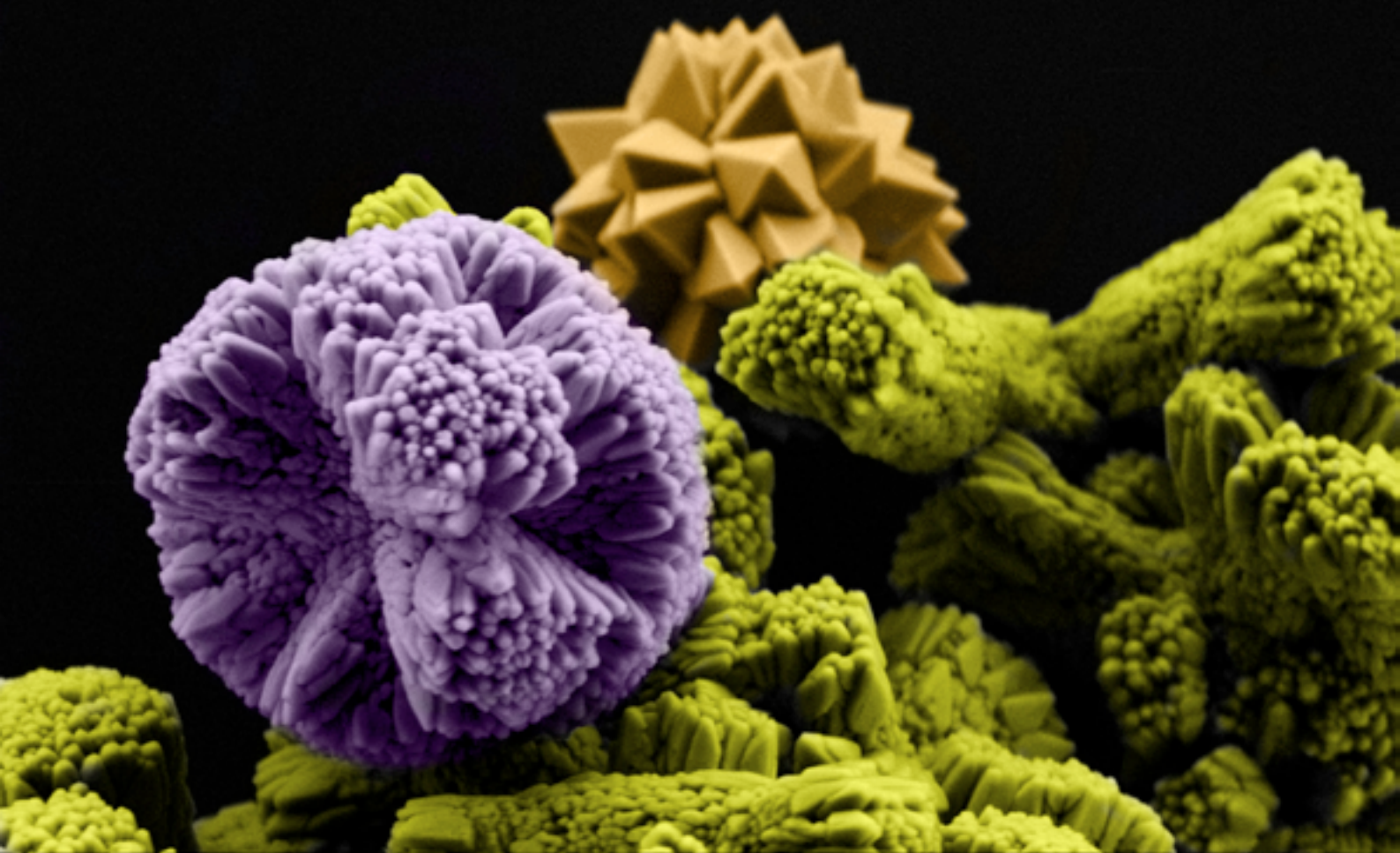
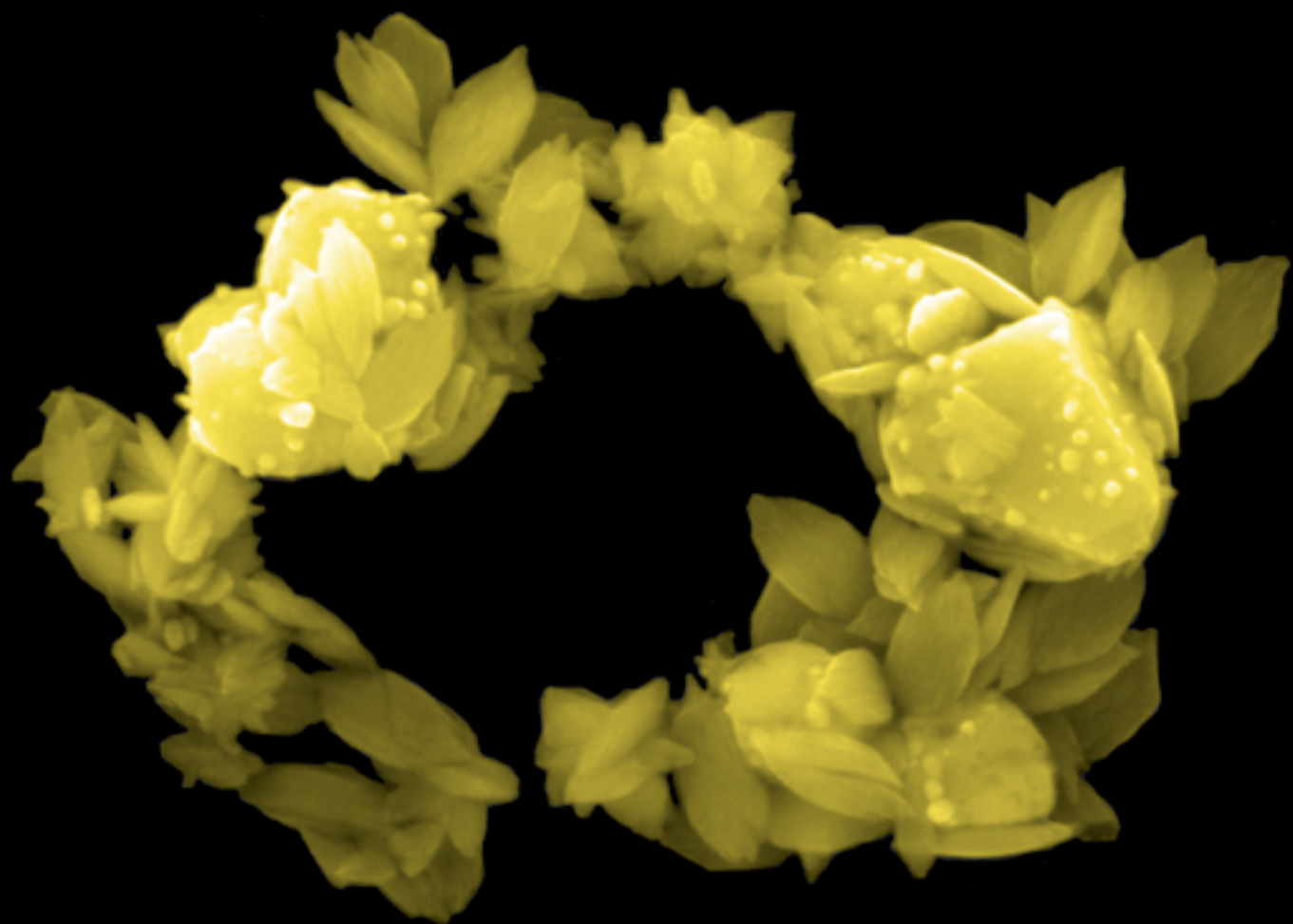
JUSTIFICATION:

The sustainable development of the planet implies a growing demand for new strategic materials. Brazil's particular characteristics, with abundant resources in minerals, biomass, petroleum and other inputs of strategic importance, make it even more urgent to prospect for new technologies for the development of higher value-added materials and processes, designed to achieve maximum performance in applications of interest. The proposal of this theme is based on UFSCar's role in studies involving materials and its multidisciplinary character. In this context, the theme "Strategic Materials" was selected as a priority area for joint action by a consortium of nine Graduate Programs linked to the Center for Exact and Technological Sciences, among which three have Evaluation Grade 7 in CAPES (PPGQ, PPGCEM, PPGEQ). These characteristics have consolidated UFSCar as a Center of Excellence in Materials, training hundreds of masters and doctors, registering dozens of patents and publishing hundreds of articles over the last four years. It is worth highlighting the capacity of the researchers linked to this topic to

raise financial and human resources for the development of research in both development agencies and private initiatives in Brazil and abroad, such as CEPID's (3), FAPESP thematic projects (3), INCT-CNPq, Petrobras (3), double-diploma (Brazil-USA) and cotutelle (France, Spain, Cuba, etc.). The international recognition of UFSCar in this area will be explored in the present proposal of internationalization to attract young talent from abroad and Brazil and to consolidate existing partnerships with foreign institutions and researchers of recognized competence. The internationalization actions will be directed in an integrated way, fomenting the flow of information and the exchange of knowledge in the following subtopics Materials for Energy, Nanoscience and Nanotechnology, Biomaterials and Renewable Materials, Innovative Processes and Modelling and Computational Simulation.

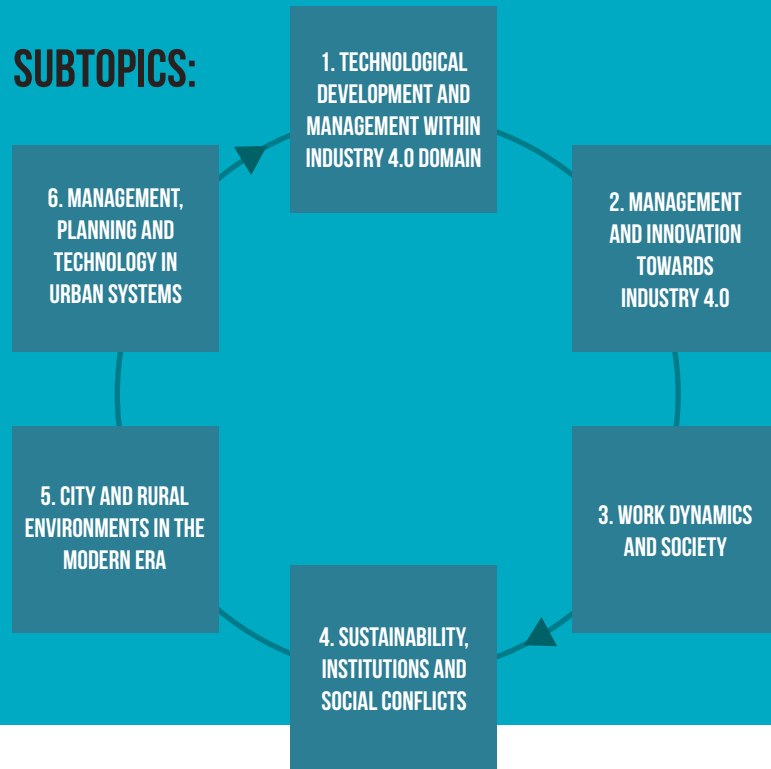
Participating Graduation Programs:

PPGCEM, PPGEQ, PPGQ, PPGBiotec, PPGECiv, PPGM



STRATEGIC RESEARCH THEME 2: INDUSTRY AND URBAN REVOLUTION - INDUSTRY 4.0 AND THE SMART CITIES

SUBTOPICS:



Coordinator:

Profª Drª Teresa Cristina Zangirolami

Institutional Manager Member:

Prof. Dr. José Maria Correa Bueno

Prof. Dr. Ernesto Chaves Pereira de Souza

JUSTIFICATION:

Modern technology innovation challenges the entire Society and has the potential to change almost everything that has been done concerning work and social environment. Technological innovations such as Artificial Intelligence, 3D Printing, autonomous vehicles, internet of things, computer-aided processes, biotechnological processes, new technologies in work management and the new tools for sustainability are priorities in modern scientific development. Different from the other industrial revolutions, change in the industry 4.0 era, has been occurred in a fast, wide and deep way, both, in technological and social aspects. Such changes have been discussed in a lot of modern countries, such as Germany, United States, China, France, among others. A lot of investments have been spent in these countries in order to actively participate in such revolution. Brazil needs to participate in this research effort. Within this context, the Federal University of São Carlos chooses the theme “Revolution in Industry and cities – Industry 4.0 and Smart Cities” as a priority wi-

thin the context of the CAPES - PrInt program. Six subthemes were selected as above. Each of these subthemes have been studied in the graduate program of UFSCAR that will participate in these research efforts. The diversity of such graduate programs and the high capacity of the researchers make the proposal solid and potentially prolific. The competitive differential of this research proposal is the wide range of knowledge involved in the project. All the graduate programs that participate in this research will be involved together and also exchanging knowledge with universities from other countries in order to plan, study and analyze how the new technologies can be integrated with the physical, digital, biological and management aspects.

Participating graduate programs:

PPGEQ, PPGCC, PPGEciv, PPGM PPGCEM, PPGEU, PPGS, PPGEF

STRATEGIC RESEARCH THEME 3: EDUCATION AND HUMAN PROCESSES FOR SOCIAL CHANGES

SUBTOPICS:

1. SCIENCE PRODUCTION AND COMMUNICATION (SCIENTIFIC CULTURE, SOCIAL ROOTING OF SCIENCE); KNOWLEDGE TRANSFER, INFORMATION TECHNOLOGY, DEVELOPMENT OF EDUCATIONAL COMPUTER GAMES

2. NEW SCIENCE EPISTEMOLOGIES IN THE TRAINING OF SCIENTISTS; SCIENCE POPULARIZATION AND EDUCATION

3. EQUITY OF ACCESS TO TEACHING AND KNOWLEDGE (ETHNIC AND RACIAL RELATIONS, GENDER, SEXUALITIES, SOCIAL CLASS, ACCESSIBILITY, SPECIAL EDUCATION)

4. PUBLIC POLICY, EDUCATIONAL ORGANIZATION AND INCLUSION (EQUALITY OF OPPORTUNITIES IN EARLY CHILDHOOD EDUCATION, ELEMENTARY EDUCATION, COLLEGE EDUCATION, PROFESSIONAL EDUCATION);

5. SOCIAL/INSTRUCTIONAL TECHNOLOGIES AND TEACHING METHODS (LITERACY, LEARNING, EARLY AND CONTINUED TEACHER TRAINING, HYBRID LEARNING ENVIRONMENTS)

Coordinator:

Prof^a. Dr^a. Cristina Broglia Feitosa De Lacerda

Institutional Manager Member:

Prof^a. Dr^a. Deisy das Graças de Souza
Prof. Dr. Jacob Carlos Lima

JUSTIFICATION:

This proposal integrates the scope of action of graduate programs in humanities at UFSCar and those from related fields of knowledge. The general goal is to conduct research which can overcome knowledge gaps, maximizing experiences abroad and thus, promoting understanding and coping with the challenges of local and global realities. At the same time, we aim to build complementarity that can reduce asymmetry in both spheres and that can elevate the knowledge level by mutual contributions, as a result of different competencies in national and international partner institutions. The proposal is innovative not only with respect to the subject, but also in how it is addressed, in search for the consolidation of outstanding areas, as well as for the promotion of other areas with international potential. This is reflected in the choice of competitive subtopics which can be generalized, and thus be inserted in research fields of international interest. This will allow for the creation of a research network and for the production of knowledge at the graduate level in accordance with the institution's competencies and, at the same time, it will generate innovative approaches to subjects that are relevant to Brazilian society: knowledge production and science dissemination; new science epistemologies in the training of scientists, equity of access to teaching and knowledge, public policies, educational organization and inclusion; development and assessment of educational and instructional

technologies and teaching methods. These themes are in line with public policy tendencies in science, technology and innovation, described in the MCTI document, as well as with the expected outcomes for education, science and social technologies. The goal is to produce and disseminate innovative solutions, as well as to create indicators for the elaboration and foundation of public policies on social inclusion, considering socioeconomic and cultural aspects and the need for improvement in quality of life for the population. Therefore, this proposal is consistent with the principle described in the MCTI document: "Universities and research institutions need to be encouraged to incorporate the social dimension in their research agendas, to promote citizenship; and a greater integration of social and human sciences into policies directed to science, technology and innovation should be pursued" (Estratégia Nacional de Ciência, Tecnologia e Inovação [National Strategy for Science, Technology and Innovation] 2016/2022, p. 98s). The implementation of this proposal can contribute in the direction of promoting the advancement of UFSCar's ongoing internationalization initiatives and/or in the process of institutionalization.

Participating graduate programs:

PPGEEs, PPGPsi, PPGS, PPGAS, PPGFil, PPGL, PPGEd, PPGPol, PPGLit



STRATEGIC RESEARCH THEME 4.

INTEGRATED TECHNOLOGIES FOR HEALTH: FROM PREVENTION TO REHABILITATION

SUBTOPICS:

1. TECHNOLOGICAL SOLUTIONS FOR HEALTH

2. HUMAN DEVELOPMENT AND LIFE TRAJECTORY

3. NON-COMMUNICABLE CHRONIC DISEASES

Coordinator:

Prof^a. Dr^a. Aparecida Maria Catai

Institutional Manager Member:

Prof^a. Dr^a. Tania de Fatima Salvini

Prof^a. Dr^a. Heloisa Sobreiro Selistre de Araújo.

International Manager Member:

Prof. Dr. Marcos de Noronha

JUSTIFICATION:

The development, incorporation and use of technologies in health systems, as well as their sustainability, are embedded in social and economic contexts that derive from the continuous production and consumption of goods and products. The health system is influenced by public policies and by the strengthening of the role of its professionals and users, who, together, exert strong pressure for the incorporation of new technologies. The continuous growth of health costs, the growing production of new technologies, and the changes in the epidemiological profile of populations occurred in the last two decades have led to the need for interdisciplinary attention. In this way, the study of the different technologies, their biomedical consequences and their social cost are made socially and politically necessary to a better understanding of the health services related problems, constituting an important tool for the formulation of actions that may interfere in the system. In other words, it is considered that the greater access of public and private health managers to this knowledge is positive for the understanding of the complex articulation of the technologies with the political and technical processes that build in the different levels of

the health systems, the standards incorporation and use of technologies. In Brazil, the Unified Health System (SUS) aims to guarantee universality and integrality to health, allowing greater access of the population to care networks. However, it has been noted that existing resources are not always used in the most effective and equitable way for this purpose to be achieved. Thus, in order to guarantee the integrality principle, the incorporation of new technologies must be carried out with the inclusion of techniques that are effective and safe, the damages and risks of which do not exceed their benefits. In this context, UFSCar has carried out research involving the use of several technologies (devices for diagnosis and prevention of diseases, use of engineering, chemistry, mathematics, physics and computing science, as well as for health management) using various technological resources and innovative approaches with pharmacological and non-pharmacological interventions to prevent, treat and rehabilitate individuals at different stages of life (child-adult-elderly).

Participating graduate programs:

PPGFT, PPGCF, PPGGEv, PPGBiotec, PPGCC, PPGEQ

STRATEGIC RESEARCH THEME 5: BIODIVERSITY, ECOSYSTEM FUNCTIONS AND SUSTAINABILITY

SUBTOPICS::



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JUSTIFICATION:

According to the recent publication of the Regional Diagnosis on Biodiversity and Ecosystem Services in the Americas, prepared by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), it is estimated that about 30% of the biodiversity populations of the Americas have already declined since the beginning of European colonization and this number should increase in the coming years. At the axis of this scenario are human beings and their disordered actions, promoting deforestation and the consequent fragmentation and loss of habitats, poaching, roadkill, pollution and climate change. It is well-known that ecosystems around the world have a wide variety of functions and promote a wide range of services provided by their biodiversity, which are of crucial importance to human well-being, health and quality of life. Although ecosystem restructuring and management have provided some benefits such as increased food production for human consumption, these changes have generated large environmental costs, impairing the ecosystem functions and services. On the other hand, because they oc-

cur unequally among the ecosystems, such changes can worsen inequalities in access to environmental services, further contributing to poverty. The Brazilian case is of particular concern due to the disorderly economic growth occurring since the post-war period. The theme "Biodiversity, Ecosystem Services and Sustainability" has a strategic dimension that seeks, in an integrated and multidisciplinary way, the integral development of scientific and technological knowledge, able to underpin priority actions of conservation of biodiversity, sustainable use of natural resources, health environmental and human well-being, mitigation and adaptation to climate change. Five sub-themes will be focused on: Biodiversity, Ecosystem Services, Strategic Natural Resources, Environmental Health and Human Well-being, Climate Change.

Participating graduate programs:

PPGERN, PPGGEv, PIPGCF, PPGCam, PPGBMA, PPGPUR, PPGQ, PPGEQ

FINAL REMARKS

To start the consolidation of this PEI, a new organizational structure was proposed to enlarge UFSCar internationalization strategies, composed of the Dean of Graduate Programs as president of this council, and indicated members for the Internationalization Administrative Group, with a solid academic background to give broad aid to the proposal, alongside the members of the Internationalization Administrative Group, who have the background and competence to assist, evaluate, monitor, and reevaluate this Strategic Plan for Internationalization, aiming to assure that the proposed activities, as well as the goals, can be achieved.



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